SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD)
WATER RESOURCES ADVISORY COMMISSION (WRAC)
LAKE OKEECHOBEE COMMITTEE MEETING – April 26, 2006
LaBelle Civic Auditorium, 777 W. Hicpochee Road (SR 80)
LaBelle, FL
9:00 a.m. – 3:00 p.m.
MEETING REPORT

This is a summary of the April 26 WRAC Lake Okeechobee Committee meeting.

INTRODUCTION:

- Committee Chair and SFWMD Governing Board member Malcolm "Bubba" Wade called the meeting to order and welcomed everyone.
- The committee heard presentations about:
  - Status of Water Conditions and Operations on Lake Okeechobee
  - Lake Ecosystem and Water Quality
  - Aquifer Storage and Recovery Update
- The committee reviewed the draft discussion paper on recommendations and agreed to changes to the Goal and Objective statements. The updated document is attached to this report.
- Following adjournment of the WRAC Lake Okeechobee Committee meeting, a public workshop was held on a proposed SFWMD Water Shortage Plan for Supply Side Management (Chapters 40E-21 and .22, Florida Administrative code).
- The lake water level was 13.74' on 4/26/06.
- Lake Okeechobee Committee presentations will be posted to http://www.sfwmd.gov, "Governing Board/WRAC".

ISSUES/DISCUSSION BY COMMITTEE:

- **Member Issues:**
- Committee members discussed:
  - a proposed Florida Department of Agriculture and Consumer Services (FDACS) draft rule on agricultural "Best Management Practices" (BMPs).
  - A 21-day public comment period began on April 21.
  - Implementation of the nutrient reduction component of the Lake Okeechobee and Estuary Recovery Plan (LOER) and requirements of the proposed rule were discussed.
  - The rule applies BMP requirements to all Lake Okeechobee basins, not just the "priority basins" as under current rule.
  - Committee asked to be notified about draft rules from agencies working with the SFWMD to implement LOER components.
  - Chairman Wade asked that a full presentation on water quality be made at the next meeting, including information about how the revised BMP rule will impact the lake watershed.

- Lake water quality is improving, however there continues to be high turbidity on the south side, and there is an algae bloom. Aquatic plant control contractors continue to spray in windy conditions and were seen spraying on the lake when small craft warnings were out. Some applicators are getting better and are avoiding non-target species.

- **Water Conditions and Operations Update – Cal Neidrauer, SFWMD**: March 2006 was the sixth driest month on record. April is one inch below normal and so far the dry season has been 5.44" below normal. The Corps of Engineers, as requested by the SFWMD, began a one-half pulse release to the Caloosahatchee estuary on 4/26/06 to continue to drop the lake level.

  Committee Discussion: Questions about releases of lake water to the Stormwater Treatment Areas with resulting inability to take advantage of extra storage in the WCAs that could be used in the dry season. Answer: 1). Supplemental water supply deliveries from the lake are being made to WCA-2A since the 2A stage is below its "floor elevation". WCA-2A regulation schedule requires equal inflows to balance the WCA releases for water supply. These low volume water supply releases from the lake do not require treatment by the STAs since stages are low enough to keep the untreated water within the interior canal from mixing with the marsh. 2). Regulatory discharges from the Lake are not required since the lake stage is below its regulation schedule. Even if the state were above schedule, releases south would not be allowed due to treatment capacity in STA-3/4 (the only STA designed to treat Lake water). STA-3/4 reached its treatment capacity (load limit) in January after receiving several weeks of Lake regulatory discharges.

- **Lake Ecosystem and Water Quality – Susan Gray, SFWMD:** In-lake remediation efforts underway include: sediment quality mapping, "hot spot" remediation, investigation of pelagic zone dredging, and chemical treatment.

  Staff will recommend to the Governing Board "hot spot" remediation at Eagle Bay, which would demonstrate the feasibility of dredging technology that could be used elsewhere on the lake.

  Committee Discussion: Question about mapping of sediments and depth of lake where sediments are concentrated. Answer: Sediments are very fluid and continue to move around, particularly in the central part of the lake. Question about whether it is possible now to burn cattails. Answer: There is still too much moisture in the cattails for successful burning. There has not been success at burning when the lake is above 12.5'. SFWMD intends to use fire to help control torpedo grass as the

lake recedes. Several questions about availability of information on the Eagle Bay project and whether COE permits are needed for the project. Also questions about whether chemical treatment has worked on other lakes in Florida. Answer: Staff is gathering information on all the above; chemical treatment is the least developed alternative.

- **Public Comment:** Rob Loughlin: Sanibel has supported pulse releases to the Caloosahatchee estuary to help the lake recover; however, with the water levels in some Water Conservation Areas dropping to the "floor" elevation, still cannot get additional releases of lake water to the south. Urged the SFWMD and the COE to fill up the Water Conservation Areas vs. releasing water to the estuaries. Barbara Cooley, Sanibel: Supported Mr. Loughlin's statement and said there had been much discussion about the lake but nothing about providing relief for the estuaries. There is no shared adversity and the Caloosahatchee is still being damaged.

- Mr. Wade responded that there is shared adversity. High water levels in the WCAs have damaged tree islands, nutrient loading above levels providing for in the federal water quality lawsuit settlement agreement is of concern, especially in WCA-1. Some water is going south to WCA-2 and is bypassing the Stormwater Treatment Areas because it is to be used for water supply.

- **Aquifer Storage and Recovery (ASR) – Bob Verrastro, SFWMD:** Mr. Verrastro presented an update on the CERP ASR Pilot Projects, the ASR Regional Study, and the LOER Deep Well Injection project. The committee had many questions and discussed the presentation at length. There was also discussion about deep well injection of Lake Okeechobee water into the boulder zone.

- **Committee questions, discussion and public comment** (Byron Maharrey) resulted in the following action recommendations:
    - Committee agreed ASR must be accelerated and supported.
    - Identify barriers to progress (e.g. Department of the Interior issues)
    - Work to obtain funding for a pilot test at Moorehaven
    - Resolve issues with Palm Beach County Planning and Zoning Department about the Hillsboro pilot test site.
    - Need to know when the first wells can be constructed and projected costs.
    - Need to fully explore deep well injection option, feasibility, costs and schedules.

- **Committee Discussion – Draft Options/Recommendations Paper:** The afternoon discussion session about recommendations, goals, objectives and strategies resulted in changes to the initial draft document. The updated discussion paper is attached.

WRAC LAKE OKEECHOBEE COMMITTEE
DRAFT LAKE OKEECHOBEE AND ESTUARY RECOVERY
GOALS, OBJECTIVES AND STRATEGIES
For Recommendation to the WRAC

This is a draft compilation of the WRAC Lake Okeechobee Committee discussions on February 22 and March 29, and incorporates changes made by the Committee on April 26, 2006.

GOAL I: Restore and maintain the ecological health of Lake Okeechobee and ensure its continued protection.

OBJECTIVE A: Better manage lake water levels by means of a revised Lake Okeechobee water level regulation schedule.

Strategy 1: Revise the Lake Okeechobee "WSE" Water Level Regulation schedule to benefit the lake and estuarine ecosystems while providing for appropriate water supply and flood protection.

Strategy 2: Develop an action plan to lower the water level of Lake Okeechobee to 12' for a minimum of 12 weeks, as soon as possible.

Strategy 3: Evaluate the need to create two Lake Okeechobee water level regulation schedules: one for wet cycles and one for dry cycles.

Strategy 4: Determine whether dry season pulse releases or continuous releases are appropriate for each estuary receiving

Lake Okeechobee water; look at routing more water through east coast canals and to the south.

<u>Strategy 5:</u> Continue to make appropriate pulse releases from Lake Okeechobee consistent with direction of the SFWMD Governing Board to staff provided on April 12, 2006, as recommended by the WRAC.

<u>Strategy 6:</u> Adjust Kissimmee River Restoration and Kissimmee Basin Management Plans, including operational plans and regulation schedules, to hold more water north of the lake for longer periods of time.

<u>OBJECTIVE B:</u> Restore and protect the biodiversity of the lake ecosystem including plant and animal communities and fisheries.

<u>Strategy 1:</u> Create a Biodiversity Conservation Plan with measurable objectives for plant and animal communities and fisheries in the lake.

<u>Strategy 2:</u> Assess seed bed viability for submerged aquatic vegetation.

<u>Strategy 3:</u> Vegetation management: "To Spray or Not to Spray?" Evaluate the impact of aquatic plant control activities on the health of the lake ecosystem.

<u>Strategy 4:</u> Biofiltration: implement programs to grow plant or animal species in the lake to remove nutrients that would then have some beneficial use (e.g. Native mussels, aquarium plants, etc.).

<u>Strategy 5:</u> Replant native species to benefit the lake ecosystem.

<u>OBJECTIVE C:</u> Evaluate other possible solutions to improve water management within the lake and in the lake and tributary watersheds.

<u>Strategy 1:</u> (?)

<u>OBJECTIVE D:</u> Improve the quality of water in the lake.

Strategy 1: Complete LOER "Fast Track" and water quality improvement components as quickly as possible.

Strategy 2: Evaluate feasibility of in-lake sediment dredging as quickly as possible.

Strategy 3: Evaluate alum, calcium carbonate or other appropriate cleanup methods for use in treating appropriate segments of the lake to gain rapid water quality improvement.

Strategy 4: Meet the Lake Okeechobee "Total Maximum Daily Load" (TMDL) of 140 parts/billion phosphorous.

GOAL II: Restore and maintain the ecological health of the Caloosahatchee and St. Lucie estuaries by reducing peak flow discharges of freshwater from Lake Okeechobee and by meeting Minimum Flow and Level (MFL) requirements.

OBJECTIVE A: Increase water storage and treatment capacity on public and private lands in the Lake Okeechobee and tributary watersheds.

Strategy 1: Implement Lake Okeechobee and Estuary Recovery Plan component regarding water storage on public and private lands.

Strategy 2: Implement Aquifer Storage and Recovery (ASR) well construction.

Strategy 3: Assess need to add more water storage and Stormwater Treatment Area capacity to store and treat excess Lake Okeechobee water (see IFAS Study; design to appropriate level of service).

Strategy 4: Determine the feasibility of and need for reconfiguring discharge structures to enable mid-stage discharge capability so that less sediment is sent downstream (S-65, Nubbin Slough, etc.).

Strategy 5: "Revisit the economics" with intent to add more storage opportunities through USDA and World Wildlife Fund programs.

Strategy 6: Implement sustainable agricultural practices.

OBJECTIVE B: Increase conveyance capacities for Lake Okeechobee outflows through the C&SF project for environmental restoration or protection and for reasonable beneficial uses.

Strategy 1: Evaluate existing SFWMD plans and projects to determine the need for conveyance of Lake Okeechobee water to the C-23, C-24, and C-25 basins for beneficial uses.

Strategy 2: Amend SFWMD Consumptive Use Permit rules as needed to accomplish Strategy 1 (re: removal of Consumptive Use Permit ceilings in C-44 basin during dry season so lake water can help meet dry season agricultural water supply needs).

Strategy 3: Evaluate the need to create works necessary to reestablish a more natural distribution and timing of water from the C-25 basin to the St. Johns River Water Management District.

Strategy 4: Interbasin/Interdistrict Transfers: Determine the feasibility of using excess Lake Okeechobee water in the SFWMD Big Cypress basin, and the Southwest Florida and St. Johns River Water Management Districts.

Strategy 5: Evaluate the need for and feasibility of a flow way for the safe and beneficial conveyance of Lake Okeechobee water to the south (re: Corps of Engineers Reconnaissance Study in the mid-1990s).

Strategy 6: Create a plan, with appropriate conveyance to water utilities, to prevent the discharge of water to tide when SFWMD Water Use Restrictions are in place.

Strategy 7: Evaluate the feasibility of providing excess Lake Okeechobee water to water utilities as needed.

Strategy 8: Evaluate the feasibility of an ocean pipeline that bypasses the estuaries, to convey excess Lake Okeechobee water when appropriate.

OBJECTIVE C: Improve water quality in the Caloosahatchee and St. Lucie estuaries.

Strategy: Establish and meet estuary Total Maximum Daily Loads (TMDLs).

GOAL III: **Protect land and water resources in the Lake Okeechobee and tributary watersheds while also protecting private property rights, flood protection and water supply needs.**

OBJECTIVE A: Create incentives for landowners to retain natural areas to reduce runoff, store water and improve water quality.

Strategy 1: Implement Transfer of Development Rights programs in Lake Okeechobee and tributary watersheds.

Strategy 2: Determine appropriate phosphorous reduction requirements for conversion of land uses in the Lake Okeechobee and tributary watersheds.

Strategy 3: North of the lake, evaluate leasing vs. acquiring land for storage and treatment, especially in areas impacted by citrus canker.

Strategy 4: When leasing lands for storage and treatment, evaluate feasibility of restoring wetlands as a lease provision.

Strategy 5: Provide credits, compensation or other incentives for landowners who store more water on their land.

OBJECTIVE B: Implement alternative water supply development, water reuse and conservation in Lake Okeechobee watershed, its tributary watersheds, and downstream water users.

Strategy 1: Rapidly complete and implement the SFWMD Water shortage supply side management plan.

Strategy 2: Need to quickly resolve issue of temporary vs. permanent forward pumps and impacts on water supply.

Strategy 3: Review current Lower East Coast Regional Water Supply Plan and C&SF Restudy for applicable ideas.

Strategy 4: Support desalination plants in coastal counties, to augment public water supply.

OBJECTIVE C: Improve quality of water flowing into the lake.

Strategy 1: Aerate canals at strategic inflow points to settle out nutrients and solids flowing into the lake.

Strategy 2: Speed up timeframe for implementation of "Best Management Practices" (BMPs).

Strategy 3: Remove exemptions from BMP requirements for any water sources flowing into the lake.

Strategy 4: Rapidly implement LOER component regarding use of phosphorous fertilizers in Lake Okeechobee and tributary basins.

Strategy 5: Establish and meet tributary Total Maximum Daily Loads.

OBJECTIVE D: Assure that the Lake Okeechobee Hoover Dike provides adequate flood protection

Strategy: Complete rehabilitation of the Hoover dike and all other appropriate flood p